Formulation of Peptides and Proteins with Cyclodextrins

Larsen, Kim Lambertsen

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Formulation of peptides and proteins with cyclodextrins

Kim Lambertsen Larsen
Section of Chemistry, Department of Biotechnology, Chemistry and Environmental Engineering, Aalborg University, Sohngaardsholmsvej 57, 9000 Aalborg, Denmark

Based on the limited dimensions of the cavity of the α-, β-, and γ-cyclodextrins we normally consider small organic molecules as ideal guests for inclusion complex formation. Thus, proteins and peptides could be considered as too large to form stable complexes with these cyclodextrins. Nonetheless, cyclodextrins are capable of forming relatively weak complexes with proteins and peptides. This complex formation may drastically alter the physical behavior of these molecules. Examples of how cyclodextrins can affect protein and peptides will be given. Additionally, an explanation of the mechanisms behind these phenomena and their molecular basis will be discussed.